

CoWIND 1550nm High Power Single Frequency Fiber Laser Module



Product Description:

CoWIND Series 1550nm High Power Single Frequency Fiber Laser Module of Connet is an OEM modular narrow linewidth fiber laser designed for short range high precision wind LiDAR application. The eye-safe working wavelength is adopted. The single-frequency single longitudinal mode ensures the long coherence length. The standard model of this laser uses the polarization-maintaining fiber output, high polarization extinction ratio (PER) with the output power up to 2W.

Connet CoWIND series 1550nm high-power single-frequency fiber laser module uses the main oscillator power amplifier (MOPA) structure design. The seed laser is with the single-frequency, low-noise, narrow linewidth characteristics and meanwhile the optimized polarization-maintaining fiber amplifier is adopted for power boosting. The modular design is compact and robust, which is applicable to a variety of harsh environments. This laser can be widely used in wind power, coherent wind LiDAR and airborne wind LiDAR, etc.

Options:

1. High power 3-port optical circulator can be integrated.
2. Non-PM output, higher output power, narrower linewidth down to <math><5\text{kHz}</math>.

Applications:

- Coherent Doppler LiDAR
- Environmental monitoring
- Pollution detection
- Coherent communication or sensing
- Other scientific research

Features:

- Eye-safe wavelength 1550nm
- Narrow linewidth 10kHz
- Long coherence length
- Low RIN, low phase noise
- Single frequency, SLM output
- High Polarization Extinction Ratio (PER)



Specifications:

Parameter	Unit	Specification		
		Min	Typ.	Max
Part no.		CoWIND-1550-M-SF		
Center wavelength ¹	nm	1540	1550	1565
Output power	W	0.5	1	2
Output beam quality	M ²	-	1.05	1.1
Operation mode		CW SF SLM		
Linewidth	kHz	-	10	50
Relative Intensity Noise (RIN)	dB/Hz	-145	-140	-130
Wavelength tunable range	nm	0.3	0.8	1
Output power stability	%	-	1	2
Circulator		Optional		
Output isolation	dB	45	-	-
Polarization		Linear		
Polarization Extinction Ratio (PER)	dB	20	23	-
Power supply	V _{DC}	12-24		
Operating temperature	°C	-25	-	+50
Storage temperature	°C	-40	-	+85
Main output fiber type		PM Fiber		
Main output fiber length	m	>0.3		
Main output fiber connector		FC/APC		
LO output fiber type		PM Fiber		
LO output fiber length	m	>0.3		
LO output fiber connector		FC/APC		
Dimension	mm	200(L)x135(W)x41(H)		

Specifications:

- Typical center wavelength is 1550nm. Other wavelengths are available.

Ordering Information:

- CoWIND-1550-M-SF-<P>-FA
- P: Output Power, Example: 1-1W